

Weekly Report for 2015/09/07-2015/09/13

Guo Fangzhou

Progress

1. TCPTree Project

2. Revise vis 2015 submission

This week I discussed the Lin Tao's paper with Prof. Wu.

Prof. Wu told me to implement three views based on the weak ties and strong ties.

The first view is a temporal view which shows the strength change of each edges along time.

The second view is a projection of all edges in the network. The projection is done by treating each edges as a high dimension vector.

The third view is a bipartite graph, which encodes node information and edge information at the same time.

I told Lin Tao to implement these view as soon as possible to see whether patterns can be shown by these three views or not.

3. Large Graph Visualization

1) Task

This week we discussed about the task, and divided it into three parts: 1. front end (backbonejs); 2. RESTful interface; 3. back end (data interface and MVC).

I'm responsible for task 1.

Biao Zhu is responsible for task 2.

Yuxin Ma is responsible for task 3.

2) Move the code to backbonejs

I moved the current code to the basis of backbonejs. It takes more time than I expected because I had not use backbonejs before and I had to learn it before I start.

Now the code is already running on backbonejs.

3) Layout reordering

To reduce the edge cluttering, I rearranged the nodes. Before the rearrangement, the nodes are arranged as in Figure 1. After the rearrangement, the nodes are arranged as in Figure 2. It is very clear that edge cluttering is reduced. But the algorithm does not perform well when the number of edges grows large. We still need a powerful re-layout algorithm to reduce the cluttering when there are 2000+ nodes in the network.

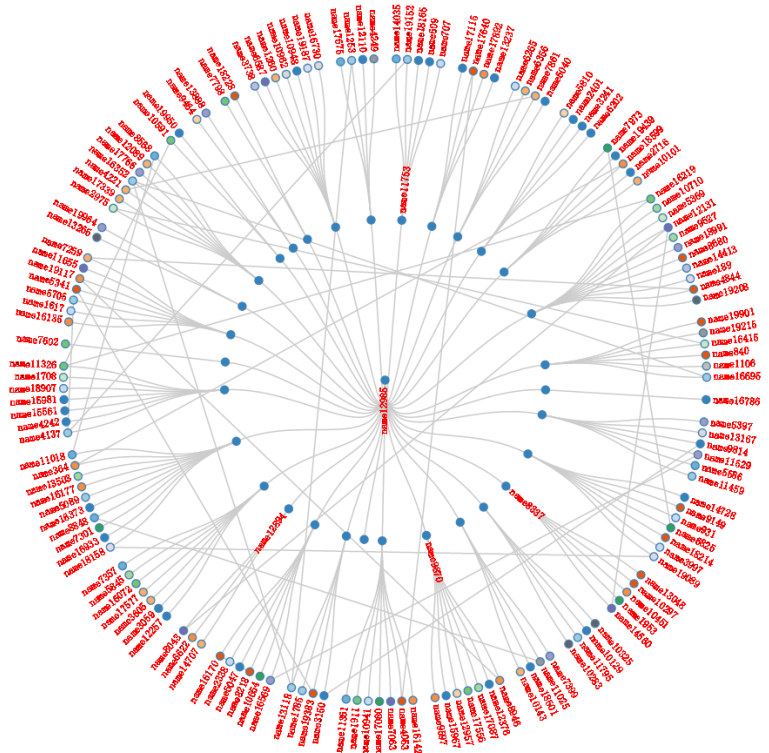


Figure 1

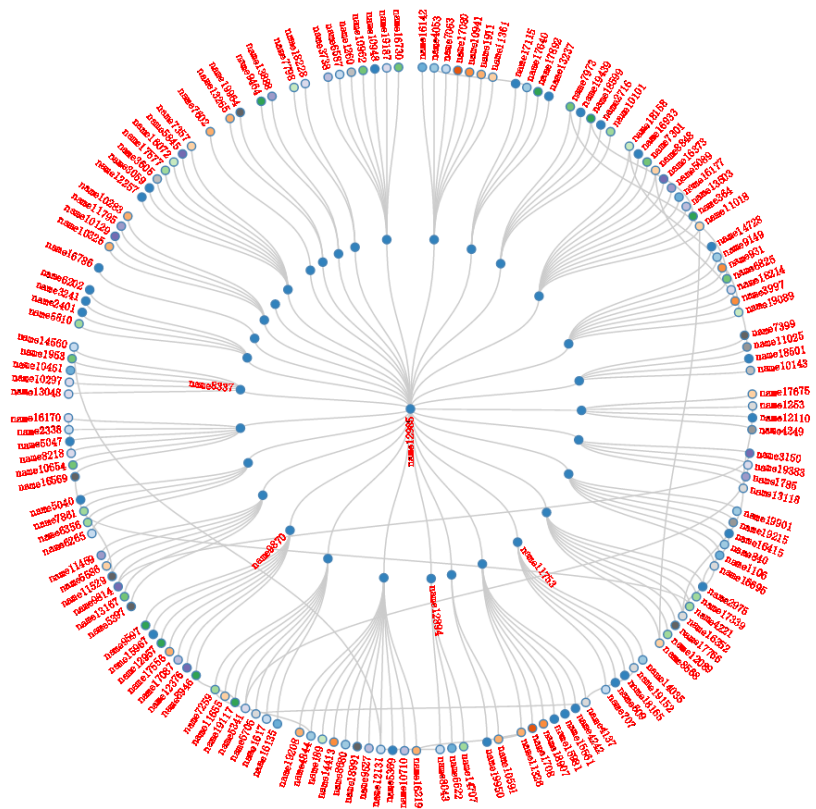


Figure 2

Plan

1. TCPTree Project

Finish variable tree.

Finish the control panel and other interactions.

2. Revise vis2015 submission

3. Large Graph

1) Relayout the ego network and apply voronoi.

Apply the cluster and voronoi plan on the data, and test the performance.